**Forecast for MEIDEX**

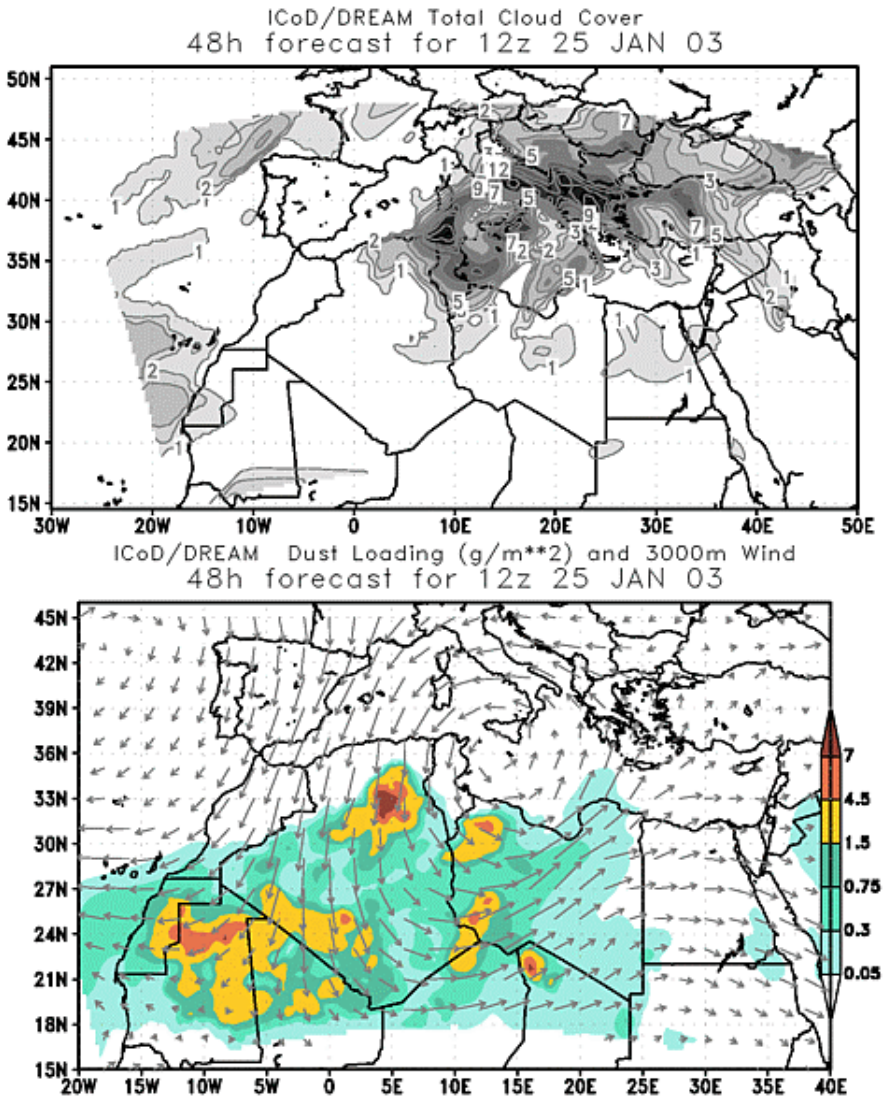
Date: 24 Jan 2003

**General:** Today, 24 January, "Yoav" cyclone is expected to settle for 48 hours towards southern Italy, a location favorable for producing dust plumes near Crete. The Tel Aviv forecast model does not indicate any plumes and the Skiron and Malta models (below) show a mild plume, combined with cloud patches.

This seems to be our first (and perhaps the best) chance to have a dust observation, provided that, with a little bit of luck, we find a "hole" in the clouds at the right timing.

Additionally, some mild plumes are evident off the Atlantic coast and shall hopefully be obtainable during the Atlantic operations today.

**Dust loading and Cloud coverage for 25 Jan 2003**



**Yoya's Message**: Today's message is a tribute to KC …

**Ode To A Lady Far Away**

There is a fair lady named KC
Her hair is flying from her facee,
But her feet are firmly planted in Spacee.
Her hands are busy seeking their goals,
While her eyes are penetrating our souls

**MEIDEX FD09 Ops Message**

**MX Playback:** 08/20:35 – 08/20:50
09/03:57 – 09/04:22
**MX XFERS:** To be scheduled for Red FD10; planned times to be voiced up
**MX PGSC Setup (step 5):** To be scheduled for Red FD10; planned times to be voiced up
**Standalone Door Ops**: None
**Digital TV Instructions:** None

**Special Instructions:**

1) For Sprite operations, we will nominally be using a Gain of 90. As the camera is sensitive to illumination at this gain setting, we will be modifying our Sprite ops messages to include making the Gain changes once we are confident that the lighting conditions are dark. For most Sprites this means we will plan the Gain command (SCIENCE Step 4) at Orbiter sunset (T times).

2) Remember to keep an eye out for that Xybion temperature. If it reaches the limit of 40 deg during any of your ops, we would like you to immediately deactivate it via MEIDEX CLOSEOUT Step 3 (PLOPS, 1-79).

## MSG 131B - BLUE FD10 MEIDEX OPS

**Orbit # 140**

Observation type: Moon Cal (moon in view from 16:24 to 16:48)
Video: Live Analog downlink; Recorded on V10 #1 and #2
Special Instructions: 1) Center Moon in Xybion FOV at start of observation. 2) Do not Record on PLD VCRs until moon in Xybion FOV. Once started, record for 6 minutes. 3) Position the moon over few different locations of the FOV with the truss control.
**Violations: None**

| Start | Procedure | Instructions | R/NR | CMD | Notes |
|---|---|---|---|---|---|
| **08/14:55** | **MEIDEX SETUP** | **Step 1 (Timer Setup)** | **REQ** | **Crew** | |
| | | **Step 2 (PTV Check)** | **REQ** | **Crew** | |
| | | **Step 3 (Tape Verification)** | **REQ** | **Crew** | |
| 08/15:20 | MEIDEX SETUP | Step 4 (TLM Config) | REQ | POCC | |
| | | Step 5 (Event Log Config) | REQ | POCC | |
| | | Step 6 (PLD VCR Act.) | REQ | POCC | VCR = **3** |
| | | Step 7 (Sekai Activation) | REQ | POCC | |
| 08/15:40 | XYBION | Step 1 (Xybion Powerup) | REQ | POCC | |
| | ACTIVATION | Step 2 (Time/Date Config) | REQ | POCC | |
| 08/15:50 | MEIDEX SCIENCE | Step 4 (Xyb Cam Config) | REQ | POCC | Setup = Moon |
| | | Step 6 (Truss Pntg Config) | REQ | POCC | Truss = **0** |
| **08/16:15** | **MEIDEX SCIENCE** | **Step 1 (Xyb Pwr Check)** | **REQ** | **Crew** | |
| | | **Step 2 (Xyb T/D Check)** | **REQ** | **Crew** | |
| | | **Step 3 (Door Open)** | **REQ** | **Crew** | **NET 08/16:00** |
| | | Step 4 (Xyb Cam Config) | NR | -- | Already cmded |
| | | **Step 5 (Mon 2 Checks)** | **REQ** | **Crew** | **Setup = Moon** |
| | | Step 6 (Truss Pntg Config) | NR | -- | Already cmded |
| | | **Step 7 (In Cabin Record)** | **REQ** | **Crew** | **Analog Dnlk** |
| | | **Step 8 (PLD VCR act)** | **REQ** | **Crew** | **Do not record until moon in Xyb FOV** |
| **08/16:24** | **T Time** | **Step 9 (Observation)** | **REQ** | **Crew** | **Mnvr truss as reqd to move moon through image. Proceed to step 10 after 6 minutes of PLD VCR recording or NLT 08/16:45** |
| **NLT** | **MEIDEX SCIENCE** | **Step 10 (PLD VCR Stop)** | **REQ** | **Crew** | |
| **08/16:45** | | **Step 11 (In Cabin Stop)** | **REQ** | **Crew** | |
| | | Step 12 (PTV PWRDN) | NR | -- | |
| | | Step 13 (Door Close) | NR | -- | |
| | | Step 14 (PLD VCR Swap) | NR | -- | |
| | | Step 15 (Status Check) | REQ | POCC | |
| | | Step 16 (Truss Reconfig) | REQ | POCC | |

## MSG 131B - BLUE FD10 MEIDEX OPS

**Orbit # 140**

Observation type: Sprite

Storm Center: Will be determined 3 orbits prior to T time: approximate locations will be voiced up prior to observation

Video: Live SSV; Recorded on V10 #1 and #2

Special Instructions: Gain will be set at ~65 until T time, at which time we would like you command to Gain of 90 per the table below. Additionally, a northern attitude bias may be implemented to optimize instrument pointing.

**Violations: None**

| Start | Procedure | Instructions | R/NR | CMD | Notes |
|---|---|---|---|---|---|
| 08/16:50 | MEIDEX SCIENCE | Step 4 (Xyb Cam Config) | REQ | POCC | Setup = Sprite |
| **08/17:10** | **MEIDEX SCIENCE** | **Step 1 (Xyb Pwr Check)** | **REQ** | **Crew** | |
| | | **Step 2 (Xyb T/D Check)** | **REQ** | **Crew** | |
| | | Step 3 (Door Open) | NR | -- | |
| | | Step 4 (Xyb Cam Config) | NR | -- | Already cmded |
| | | **Step 5 (Mon 2 Checks)** | **REQ** | **Crew** | **Setup = Sprite Gain = 65** |
| | | Step 6 (Truss Pntg Config) | NR | -- | Already cmded |
| | | **Step 7 (In Cabin Record)** | **REQ** | **Crew** | **No Downlink** |
| | | Step 8 (PLD VCR act) | NR | -- | |
| **08/17:22** | **T Time** | **Step 4 (Xyb Cam Config)** | **REQ** | **Crew** | **Command Gain to 90** |
| | | **Step 9 (Observation)** | **REQ** | **Crew** | **Maneuver truss as reqd to track storms** |
| **08/17:53** | **MEIDEX SCIENCE** | Step 10 (PLD VCR Stop) | NR | -- | |
| | | **Step 11 (In Cabin Stop)** | **REQ** | **Crew** | |
| | | Step 12 (PTV PWRDN) | NR | -- | |
| | | Step 13 (Door Close) | NR | -- | |
| | | Step 14 (PLD VCR Swap) | NR | -- | |
| | | Step 15 (Status Check) | REQ | POCC | |
| | | Step 16 (Truss Reconfig) | REQ | POCC | |

## MSG 131B - BLUE FD10 MEIDEX OPS

**Orbit # 141**

Observation type: Dust (Mediterranean)

Dust plume width: low density plume is expected south of Crete, originating from the African coast

Dust Plume Location: 20 deg N of groundtrack to enable viewing of airplane track and potential dust.

Attitude: nose forward

Airplane Support: yes

Video: Live SSV; Recorded on V10 #1 and #2

Special Instructions: Shuttle attitude may be biased 20 deg N to point –Z axis towards airplane and dust. If bias is not implemented, POCC may request you to command truss towards activity (~ -20 gimbal).

**Violations: RAM at 08/18:22**

| Start | Procedure | Instructions | R/NR | CMD | Notes |
|---|---|---|---|---|---|
| 08/17:56 | MEIDEX SCIENCE | Step 4 (Xyb Cam Config) | REQ | POCC | Setup = ROI |
| **08/18:00** | **MEIDEX SCIENCE** | **Step 1 (Xyb Pwr Check)** | **REQ** | **Crew** | |
| | | **Step 2 (Xyb T/D Check)** | **REQ** | **Crew** | |
| | | Step 3 (Door Open) | NR | -- | |
| | | Step 4 (Xyb Cam Config) | NR | -- | Already cmded |
| | | **Step 5 (Mon 2 Checks)** | **REQ** | **Crew** | **Setup = ROI** |
| | | Step 6 (Truss Pntg Config) | NR | -- | Already cmded. Truss set at 0. |
| | | **Step 7 (In Cabin Record)** | **REQ** | **Crew** | **No Downlink** |
| | | **Step 8 (PLD VCR act)** | **REQ** | **Crew** | **VCR = 3** |
| **08/18:07** | **T Time** | **Step 9 (Observation)** | **REQ** | **Crew** | |
| **08/18:14** | **MEIDEX SCIENCE** | **Step 10 (PLD VCR Stop)** | **REQ** | **Crew** | **NLT 07/18:15** |
| | | **Step 11 (In Cabin Stop)** | **REQ** | **Crew** | |
| | | Step 12 (PTV PWRDN) | NR | -- | |
| | | **Step 13 (Door Close)** | **REQ** | **Crew** | **NLT 08/18:20** |
| | | Step 14 (PLD VCR Swap) | NR | -- | |
| | | Step 15 (Status Check) | REQ | POCC | |
| | | Step 16 (Truss Reconfig) | REQ | POCC | |
| 08/18:20 | MX CLOSEOUT | Step 3 (Xybion Deact) | REQ | POCC | |
| **08/18:22** | **RAM Violation** | **Door must be closed** | | | |

## MSG 131B - BLUE FD10 MEIDEX OPS

**Orbit # 142**

Observation type: Dust (Desert)
ROI: 19:43 – 19:45
Desert TCA: 08/19:48:51
Video: Live Analog Downlink, Recorded on V10 #1 and #2
Special Instructions: Following Dust pass we will conduct a desert calibration. TCA for the desert cal is 08/19:48:51. If you maneuver to track dust during the dust pass, we will need you to return the truss to 0 prior to the desert cal.
**Violations: None**

| Start | Procedure | Instructions | R/NR | CMD | Notes |
|---|---|---|---|---|---|
| 08/19:20 | XYBION ACTIVATION | Step 1 (Xybion Powerup) | REQ | POCC | |
| | | Step 2 (Time/Date Config) | REQ | POCC | |
| 08/19:25 | MEIDEX SCIENCE | Step 4 (Xyb Cam Config) | REQ | POCC | Setup = ROI |
| | | Step 6 (Truss Pntg Config) | REQ | POCC | Truss = 0 |
| **08/19:30** | **MEIDEX SCIENCE** | **Step 1 (Xyb Pwr Check)** | **REQ** | **Crew** | |
| | | **Step 2 (Xyb T/D Check)** | **REQ** | **Crew** | |
| | | **Step 3 (Door Open)** | **REQ** | **Crew** | **NLT 08/19:30** |
| | | Step 4 (Xyb Cam Config) | NR | -- | Already cmded |
| | | **Step 5 (Mon 2 Checks)** | **REQ** | **Crew** | **Setup = ROI** |
| | | Step 6 (Truss Pntg Config) | NR | -- | Already cmded |
| | | **Step 7 (In Cabin Record)** | **REQ** | **Crew** | **Analog Dnlk** |
| | | **Step 8 (PLD VCR act)** | **REQ** | **Crew** | **VCR = 3** |
| **08/19:43** | **T Time** | **Step 9 (Observation)** | **REQ** | **Crew** | **Note: Truss must be at 0 by 19:46** |
| **08/19:46** | **MEIDEX SCIENCE** | **Step 6 (Truss Pntg Config)** | **REQ** | **Crew** | **√Truss = 0** |
| **08/19:51** | **MEIDEX SCIENCE** | **Step 10 (PLD VCR Stop)** | **REQ** | **Crew** | **NLT 08/19:52** |
| | | **Step 11 (In Cabin Stop)** | **REQ** | **Crew** | |
| | | **Step 12 (PTV PWRDN)** | **REQ** | **Crew** | |
| | | **Step 13 (Door Close)** | **REQ** | **Crew** | **NLT 08/20:00** |
| | | Step 14 (PLD VCR Swap) | NR | -- | |
| | | Step 15 (Status Check) | REQ | POCC | |
| | | Step 16 (Truss Reconfig) | REQ | POCC | |
| 08/19:55 | MX Closeout | Steps 1-4 | REQ | POCC | |
| **Check MCC** | **MX PGSC SETUP** | **Step 5** | **REQ** | **Crew** | |

## MSG 131B - BLUE FD10 MEIDEX OPS

**Orbit # 144**

Observation type: Dust (Atlantic)
Dust plume width: A medium dust storm
Dust Plume Location: Lat 0 deg/ Long 5 deg. Orbiter will be biased to point –Z axis towards activity.
Attitude: nose forward
Airplane Support: No
Video: Live SSV; Recorded on V10 #1 and #2
Special Instructions: Shuttle attitude may be biased 20 deg S to point –Z axis towards dust. If bias is not implemented, POCC may request you to command truss towards activity
(~ +20 gimbal).
**Violations:** **RAM at 08/23:16**

| Start | Procedure | Instructions | R/NR | CMD | Notes |
|---|---|---|---|---|---|
| **08/21:50** | **MEIDEX SETUP** | **Step 1 (Timer Setup)** | **REQ** | **Crew** | |
| | | **Step 2 (PTV Check)** | **REQ** | **Crew** | |
| | | **Step 3 (Tape Verification)** | **REQ** | **Crew** | |
| 08/22:10 | MEIDEX SETUP | Step 4 (TLM Config) | REQ | POCC | |
| | | Step 5 (Event Log Config) | REQ | POCC | |
| | | Step 6 (PLD VCR Act.) | REQ | POCC | VCR = 2 |
| | | Step 7 (Sekai Activation) | REQ | POCC | |
| 08/22:30 | XYBION ACT | Step 1 (Xybion Powerup) | REQ | POCC | |
| | | Step 2 (Time/Date Config) | REQ | POCC | |
| 08/22:35 | MEIDEX SCIENCE | Step 4 (Xyb Cam Config) | REQ | POCC | Setup = ROI |
| | | Step 6 (Truss Pntg Config) | REQ | POCC | Truss = 0 |
| **08/22:45** | **MEIDEX SCIENCE** | **Step 1 (Xyb Pwr Check)** | **REQ** | **Crew** | |
| | | **Step 2 (Xyb T/D Check)** | **REQ** | **Crew** | |
| | | **Step 3 (Door Open)** | **REQ** | **Crew** | **NLT 08/22:40** |
| | | Step 4 (Xyb Cam Config) | NR | -- | Already cmded |
| | | **Step 5 (Mon 2 Checks)** | **REQ** | **Crew** | **Setup = ROI** |
| | | Step 6 (Truss Pntg Config) | NR | -- | Already cmded |
| | | **Step 7 (In Cabin Record)** | **REQ** | **Crew** | **No Downlink** |
| | | **Step 8 (PLD VCR act)** | **REQ** | **Crew** | **VCR = 2** |
| **08/22:56** | **T Time** | **Step 9 (Observation)** | **REQ** | **Crew** | |
| **08/22:58** | **MEIDEX SCIENCE** | **Step 10 (PLD VCR Stop)** | **REQ** | **Crew** | **NLT 08/22:59** |
| | | **Step 11 (In Cabin Stop)** | **REQ** | **Crew** | |
| | | Step 12 (PTV PWRDN) | NR | -- | |
| | | **Step 13 (Door Close)** | **REQ** | **Crew** | **NLT 08/23:14** |
| | | Step 14 (PLD VCR Swap) | NR | -- | |
| | | Step 15 (Status Check) | REQ | POCC | |
| | | Step 16 (Truss Reconfig) | REQ | POCC | |
| 08/22:50 | MX CLOSEOUT | Step 3 (Xybion Deact) | REQ | POCC | |
| **08/23:16** | **RAM Violation** | **Door must be closed** | | | |

## MSG 131B - BLUE FD10 MEIDEX OPS

**Orbit # 145**

Observation type: Dust (Atlantic)
Dust plume width: 300 km medium dust plume near the African coast
Dust Plume Location: Lat 0 deg/ Long 5 deg. Orbiter will be biased to point –Z axis towards activity.
Attitude: tail forward
Airplane Support: No
Video: Live SSV; Recorded on V10 #1 and #2
Special Instructions: Shuttle attitude may be biased 20 deg N to point –Z axis towards dust. If bias is not implemented, POCC may request you to command truss towards activity
(~ +20 gimbal).
**Violations:** **None**

| Start | Procedure | Instructions | R/NR | CMD | Notes |
|---|---|---|---|---|---|
| 08/23:55 | XYBION ACT | Step 1 (Xybion Powerup) | REQ | POCC | |
| | | Step 2 (Time/Date Config) | REQ | POCC | |
| 09/00:00 | MEIDEX SCIENCE | Step 4 (Xyb Cam Config) | REQ | POCC | Setup = ROI |
| | | Step 6 (Truss Pntg Config) | REQ | POCC | Truss = 0 |
| **09/00:10** | **MEIDEX SCIENCE** | **Step 1 (Xyb Pwr Check)** | **REQ** | **Crew** | |
| | | **Step 2 (Xyb T/D Check)** | **REQ** | **Crew** | |
| | | **Step 3 (Door Open)** | **REQ** | **Crew** | **NLT 09/00:17** |
| | | Step 4 (Xyb Cam Config) | NR | -- | Already cmded |
| | | **Step 5 (Mon 2 Checks)** | **REQ** | **Crew** | **Setup = ROI** |
| | | Step 6 (Truss Pntg Config) | NR | -- | Already cmded |
| | | **Step 7 (In Cabin Record)** | **REQ** | **Crew** | **Analog Dnlk** |
| | | **Step 8 (PLD VCR act)** | **REQ** | **Crew** | **VCR = 2** |
| **09/00:22** | **T Time** | **Step 9 (Observation)** | **REQ** | **Crew** | |
| **09/00:30** | **MEIDEX SCIENCE** | **Step 10 (PLD VCR Stop)** | **REQ** | **Crew** | **NLT 09/00:31** |
| | | **Step 11 (In Cabin Stop)** | **REQ** | **Crew** | |
| | | **Step 12 (PTV PWRDN)** | **REQ** | **Crew** | |
| | | **Step 13 (Door Close)** | **REQ** | **Crew** | |
| | | Step 14 (PLD VCR Swap) | NR | -- | |
| | | Step 15 (Status Check) | REQ | POCC | |
| | | Step 16 (Truss Reconfig) | REQ | POCC | |
| 09/00:35 | MX Closeout | Steps 1-4 | REQ | POCC | |
| **Check MCC** | **MX PGSC SETUP** | **Step 5** | **REQ** | **Crew** | |

## MSG 131B - BLUE FD10 MEIDEX OPS

**Orbit # 149**

Observation type: Moon Cal

Video: Live analog downlink; Recorded on V10 #1 and #2

Special Instructions: 1) Center Moon in Xybion FOV at start of observation. 2) Do not Record on PLD VCRs until moon in Xybion FOV. Once started, record for 6 minutes. 3) Position the moon over few different locations of the FOV with the truss control.

**Violations: RAM if maneuver to STARNAV attitude early**

| Start | Procedure | Instructions | R/NR | CMD | Notes |
|---|---|---|---|---|---|
| **09/05:00** | **MEIDEX SETUP** | **Step 1 (Timer Setup)** | **REQ** | **Crew** | |
| | | **Step 2 (PTV Check)** | **REQ** | **Crew** | |
| | | **Step 3 (Tape Verification)** | **REQ** | **Crew** | |
| 09/05:05 | MEIDEX SETUP | Step 4 (TLM Config) | REQ | POCC | |
| | | Step 5 (Event Log Config) | REQ | POCC | |
| | | Step 6 (PLD VCR Act.) | REQ | POCC | VCR = 2 |
| | | Step 7 (Sekai Activation) | REQ | POCC | |
| 09/05:25 | XYBION ACTIVATION | Step 1 (Xybion Powerup) | REQ | POCC | |
| | | Step 2 (Time/Date Config) | REQ | POCC | |
| 09/05:30 | MEIDEX SCIENCE | Step 4 (Xyb Cam Config) | REQ | POCC | Setup = Moon |
| | | Step 6 (Truss Pntg Config) | REQ | POCC | Truss = 0 |
| **09/05:40** | **MEIDEX SCIENCE** | **Step 1 (Xyb Pwr Check)** | **REQ** | **Crew** | |
| | | **Step 2 (Xyb T/D Check)** | **REQ** | **Crew** | |
| | | **Step 3 (Door Open)** | **REQ** | **Crew** | **NLT 09/05:45** |
| | | Step 4 (Xyb Cam Config) | NR | -- | Already cmded |
| | | **Step 5 (Mon 2 Checks)** | **REQ** | **Crew** | **Setup = Moon** |
| | | Step 6 (Truss Pntg Config) | NR | -- | Already cmded |
| | | **Step 7 (In Cabin Record)** | **REQ** | **Crew** | **Analog Dnlk** |
| | | **Step 8 (PLD VCR act)** | **REQ** | **Crew** | **Do not record until moon in Xyb FOV** |
| **09/05:48** | **T Time** | **Step 9 (Observation)** | **REQ** | **Crew** | **Mnvr truss as reqd to move moon through image. Proceed to step 10 after 6 minutes of PLD VCR recording or NLT 09/06:05** |
| **NLT 09/06:05** | **MEIDEX SCIENCE** | **Step 10 (PLD VCR Stop)** | **REQ** | **Crew** | |
| | | **Step 11 (In Cabin Stop)** | **REQ** | **Crew** | |
| | | **Step 12 (PTV PWRDN)** | **REQ** | **Crew** | |
| | | **Step 13 (Door Close)** | **REQ** | **Crew** | **NLT 09/06:18** |
| | | Step 14 (PLD VCR Swap) | NR | -- | |
| | | Step 15 (Status Check) | REQ | POCC | |
| | | Step 16 (Truss Reconfig) | REQ | POCC | |
| 09/06:05 | MX Closeout | Steps 1-4 | REQ | POCC | |
| **Check MCC** | **MX CLOSEOUT** | **Step 5** | **REQ** | **Crew** | |
| **Check MCC** | **MX PGSC SETUP** | **Step 5** | **REQ** | **Crew** | |